

“The present investigation reveals in the Cyanophyceae a series of nuclear structures beginning with a very simple form of nucleus scarcely differentiated from the surrounding cytoplasm and dividing by simple direct division. From this we pass by very gradual steps to a highly differentiated form of nucleus which in dividing shows a primitive type of mitosis, and in structure approximates the nucleus of the Chlorophyceae and the higher plants.”

“In this group of plants the transmission of hereditary qualities seems to be accomplished with the greatest precision, without the complicated machinery of mitosis. In this connection it may be noted that the lack of sexuality seems in no wise to affect the amount of variation, which is quite the same as in groups where sexual reproduction occurs.”

MARSHALL A. HOWE.

PROCEEDINGS OF THE CLUB

MARCH 27, 1907

The Club met at the museum building of the New York Botanical Garden at 3:30 P. M. Thirteen persons were present.

The death of Dr. Otto Kuntze, at San Remo, Italy, on January 28, 1907, was reported, and the resignation of Professor George Macloskie was presented and accepted.

The following scientific program was presented :

“Some Lactarii of Windham County, Vermont,” by Miss Gertrude S. Burlingham :

The rugged and wooded character of Vermont makes the region especially favorable for the growth of the fleshy fungi. But the only field work in the state on this group, of which we have published results, is that of Charles C. Frost (1805-1880), who collected in the vicinity of Brattleboro. Frost was a shoemaker in Brattleboro, and is commonly reported to have begun his botanical tramps as an antidote for dyspepsia. In 1875 he coöperated with Tuckerman in a “Catalogue of plants growing without cultivation within thirty miles of Amherst College,” and it is probable that most of the fungi listed were collected by Frost in Vermont.

The present collection was made during the past summer in Windham County, Vermont, immediately north of the region explored by Frost, in a belt reaching from Newfane east to Putney Mountain and west to Stratton Mountain. This part of the county varies from 180 to 600 meters in elevation, and is well wooded with balsam, spruce, hemlock, beeches, maples, and birches. In all, thirty-three species of *Lactarii* were found, of which twenty-two are not included in Frost's list. Five of these are new species, and two others are reported from the United States for the first time. Ten additional species are given in Frost's list, making for the state forty-three species, a greater number than has been reported from any other state with the exception of New York. Frost enumerated several new species, but he failed to publish any description of them, and thus unfortunately they cannot be taken into account.

Discussion followed.

"The distribution of Tree-Ferns of the Genus *Cyathea* in the West Indies," by L. M. Underwood:

The Genus *Cyathea* was originally published by Sir J. E. Smith in 1793. *Cyathea arborca*, the common lowland species of the West Indies, is the type of this genus. *Cyathea* is the type of the family Cyathaceae containing most of the tree-ferns. There are about eleven other genera, only one, *Alsophila*, as large as *Cyathea*, which has some two hundred species about equally divided between the tropics of the Old World and the New. The 104 American species are divided about equally between North and South America. Some of the distributional features are as follows:

1. No species are common to the Old World and the New. This applies equally to all tree-ferns.
2. With two or three exceptions, no species are common to North and South America.
3. As a general rule each species is local in its distribution.
4. *Cyathea arborca*, a lowland species, is the only one common to the Lesser Antilles and all the Greater Antilles.
5. *Cyathea insignis* is common to Cuba and Jamaica (1200 meters).

6. *Cyathea pubescens* is common to Jamaica and Porto Rico. (1200–1500 meters.)

7. *Cyathea Tussacii* is common to Jamaica and Hispaniola. (1200–1500 meters.)

8. *Cyathea muricata* is common to Guadeloupe and Martinique.

9. *Cyathea tenera* is rather widely distributed from Trinidad through the Lesser Antilles.

10. Besides the above are the species endemic in single islands : Cuba, 3 ; Porto Rico, 1 ; Jamaica, 9 (three of which are still imperfectly known) ; Dominica, 1 ; St. Vincent, 1 ; Trinidad, 2.

11. All of the well-known endemic species of Jamaica are confined to altitudes above 1000 meters and some of them above 1500 meters.

12. The higher altitudes of Cuba and Hispaniola, whose flora is unknown, are likely to furnish additional species.

Attention was called to morphological and physiological features worthy of investigation as follows :

a. Marked structural differences in shape and arrangement of leaf-scars supposed to be due to differences of nutrition and consequent rapidity of growth.

b. The function of certain gland-like structures at the bases of the leaves in certain species and at the bases of the pinnae in others.

c. The origin of pendent lateral bud-like branches (especially in *Cyathea dissoluta*), organs of vegetative reproduction.

Discussion followed.

The meeting adjourned at 5:30 o'clock.

C. STUART GAGER,
Secretary.

APRIL 9, 1907

The regular meeting for this date, announced on the weekly "Bulletin" to be held at the American Museum of Natural History, was postponed on account of a severe snowstorm.

C. STUART GAGER,
Secretary.